California Air Resources Board

Border Project Ideas for U.S. EPA Grant 105 Funding: 2021

Title / Program Lead	Proposal	Cost (Min-Max)
Place holder project to Support ICAPCD (EO)	School Flag Program Support	**$5,000 – $15,000**
Place holder project to Support SDAPCD (EO)	Tijuana River air monitoring / analytical support	**$15,000 – $25,000**
Binational Air Quality, EJ, and Community Accessibility in the time of the pandemic (EO)	We know that border communities have been disproportionately impacted by COVID-19. As travel and other restrictions related to the pandemic are lifted, border communities may be similarly impacted in terms of accessibility to decision makers and regulatory actions on air quality. CARB will lead a concerted effort to make air quality improvement efforts in the border region accessible to communities on both sides of the border, using lessons and strategies learned during the pandemic including, but limited to:, culturally competent virtual and in person meeting facilitation; virtual open-houses; bi-national, virtual stakeholder convenings etc. Meeting topics would include border issues as identified by existing task forces, workgroups, and steering committees, complementing those efforts, and supporting them where they fall short. Support for a 5-10 virtual meeting series; with facilitation and in-between meetings for CARB and facilitators. May include stipends for community member participation, where other program cannot provide. May also include technology stipends to promote accessibility – (wifi hotpsots etc).	**$35,000**
Continue to participate in AQTF meetings (EO/MLD)	In support of Border 2020 and upcoming Border 2025, CARB staff regularly participates in the Imperial-Mexicali Air Quality Task Force meeting and the San Diego Air Quality Task Force The funds would be for multiple staff time and travel to these quarterly meetings in Imperial/Mexicali and in San Diego, once travel restrictions are lifted due to pandemic.	**$5,000**
Purple Air sensor replacements for the Cities of Mexicali and Tijuana (MLD)	CARB and the City of Mexicali partnered on a project beginning in December of 2018 to increase the number of low-cost sensors in the Mexicali area. To date, the City of Mexicali has installed 50 PurpleAir sensors and has used this data for education and awareness, as well as to build a school flag program in Mexicali. These efforts have led to increased education and awareness provided to the public about air quality in their region and the precautions they should take to protect themselves when air quality levels are unhealthy. Due to the harsh temperatures, the failing of sensors (due to power issues and general wear and tear) in Mexicali, CARB has been supplying the City with replacement sensors on an as-needed basis. CARB is also partnering with city of Tijuana on a similar effort. CARB will not be able to continue providing replacement sensors and it is important to maintain the current network in Mexicali and the planned network in Tijuana. Grant 105 funding could be used to provide these replacement sensors to the Cities of Mexicali and Tijuana. Approximate cost for replacements is based on the assumption that ~20 sensors will need to be replaced every year.	**$10,000**
100 Sensor Network with State of Baja California (MLD)	Similar to partnerships with the Cities of Mexicali and Tijuana – CARB proposes partnering with the State of Baja California, in order to deploy a 100 sensor network across several border municipalities, including, but not limited to: Tecate, Otay, Algodones, Playas de Rosarito, Ensenada, Mexicali, Tijuana, and other areas as indicated by project partners. Project would build off and compliment previously funded sensor projects.	**$36,000**

Title / Program Lead	Proposal	Cost (Min-Max)
Air Monitoring Station Calibrations in Border Region (MLD)	Funds necessary to purchase four (4) calibrators to use with API 400E/T400 monitors to enable external zero, span, and 1-point QC Checks (ZSPs) at air monitoring sites which will close out 2015 and 2018 Technical Systems Audit (TSA) findings. For use in the border zone – Imperial County sites including, but not limited to: Niland, Brawley, Imperial.	**$80,000**
San Ysidro Diesel Monitoring and Alert Network Project (AQPSD/EO)*	The border community of San Ysidro is located between three major freeways and at one of the world's busiest border crossings. The community is disproportionately impacted by diesel emissions from vehicle traffic. San Ysidro was recommended by San Diego APCD as an AB 617 community in 2019 but was not selected for the program. The proposed project will focus on diesel emissions. *(See details below.)	**$55,000 / $355,000***
Imperial County/Mexicali PM and Ozone Website and Mobile App (AQPSD)**	Funding will continue the www.imperialvalleyair.org website and mobile application that provides public access to real-time local air quality data, air alerts, air quality forecasting, and health impact information. Information on the website and mobile application is provided in English and Spanish. The website includes information from regulatory air quality monitoring stations in Imperial County and Mexicali, MX. Monthly and annual air quality data reports are provided to the local district and CARB. **(See detail below.)	**$105,000****

*San Ysidro Diesel Monitoring and Alert Network Project

Description of Project

The border community of San Ysidro is located between three major freeways and at one of the world's busiest border crossings. The community is disproportionately impacted by diesel emissions from vehicle traffic. San Ysidro was recommended by San Diego APCD as an AB 617 community in 2019 but was not selected for the program.

The proposed project will focus on diesel emissions. It has four components: (1) Establish a Low Cost Sensor (LCS) air monitoring network to measure NOx, PM, and black carbon; (2) Collect, store, and display data through AQview, (3) Set up capabilities within AQview to provide air quality notification alerts, and (4) Conduct data analyses including development of a community-scale emissions inventory in collaboration with the San Diego APCD. The proposed costs for each element of the project are detailed in the chart below.

In the past, there has been some monitoring done by groups associated with CASA Familiar, San Diego State University, and the University of Washington. Consultation with these groups will provide valuable insight into lessons learns and strategies to ensure collection of high quality information from the LCS network. Data collected through this project could combined with data collected through deployment of the Portable Emissions AcQuisition System (PEAQS) at other border crossings to yield a robust dataset and capacity to conduct a deeper analysis.

Proposed Timeline

The LCS network would be deployed for one year. Data analyses would be ongoing and completed within a year following the conclusion of the air monitoring.

Estimated Cost

Tasks + Output	Cost Option A*	Cost Option B*
Conduct air quality monitoring • 10 Clarity Nodes (NOx + PM) • 2 Aethalometers (BC)	$20k ($2k/sensor/year) $30k ($15k/monitor) Labor cost: $0 (in-kind resources)	$20k ($2k/sensor/year) $30k ($15k/monitor) Labor cost: $300k ($150k/person)

Collect, store, and display data • Setup data ingestion pipeline to AQview	$0 (in-kind; infrastructure already exists)	$0 (in-kind resources; infrastructure already exists)
Provide AQ notifications/alerts • Setup capabilities within AQview to provide notifications	$5k	$5k
Perform data analysis • Compare data collected to PEAQS data • Develop community-scale emissions inventory	$0 (in-kind resources) $0 (in-kind resources)	$0 (in-kind resources) $0 (in-kind resources)
Total Cost of Project	**$55k**	**$355k**

* Option A represents costs if ARB's Monitoring and Laboratory Division staff or San Diego APCD staff conduct air monitoring. Option B represents costs if air monitoring is conducted by another contracted entity.

****Imperial County/Mexicali PM and Ozone Website and Mobile App**

Description of Project

Funding will continue the www.imperialvalleyair.org website and mobile application that provides public access to real-time local air quality data, air alerts, air quality forecasting, and health impact information. Information on the website and mobile application is provided in English and Spanish. The website includes information from regulatory air quality monitoring stations in Imperial County and Mexicali, MX. Monthly and annual air quality data reports are provided to the local district and CARB.

Proposed Timeline

Continue the operation of existing website and mobile application functions.

Project Costs

$105,000